WA-Trans Steering Committee Meeting Notes
October 24, 2005

Attendees:

Member	Association	Representing
Tareq Al-Zeer	WSDOT	WSDOT
Sam Bardelson	US Geological Survey Washington Liaison	The National Map
Michelle Blake	WSDOT GIS Data Administrator	WSDOT
Chuck Buzzard	Pierce County GIS	West side local government
Tami Griffin	WSDOT Geographic Services	WA-Trans (Project Manager), Facilitator
Wendy Hawley	Census Bureau	US Bureau of Census
Elizabeth Stratton	WSDOT	Freight Interests
Ian Von Essen	Spokane County GIS	E-911
David Cullom	WA. Utilities & Transportation Commission	Rail And Utility Needs
Cathy Udenburg	Walla Walla County	County & City Governments
Michael Leierer	WSDOT Geographic Services	WA-Trans (Assistant Project Manager/ Technical Lead)
Jason Guthrie	Lincoln County	County & City Governments

Not Attending:

Member	Association	Representing
Roland Behee	Community Transit	Transit Organizations
Jerry Harless	Puget Sound Regional Council	MPO's, RTPO's
David Koch	WA Department of Information Service	Information Services Board – Project Oversight
Dave Rideout	Spokane County Engineers Office	Spokane County
Sarah Schroder	WSDOT	WSDOT Office of Information Technology
Pat Whittaker	WSDOT Transportation Data Office	WSDOT Transportation Data Office
Tim Young	Washington Department of Fish and Wildlife	Natural Resource Organizations

- Introductions, Status Questions, Time Tracking, Action Item Review
- Front-end for data users – pare it down
- Versioning, update cycles, access to earlier versions and notification of updates
- Draft Data Provider Policy
- Break
- Crosswalk Classifications
- Agreement Points Report
- Strategy for dealing with jurisdictions with no data
- Next years meeting schedule
- Update Process and Policies document, Action Items Review

Introductions, Status Questions, Time Tracking, Action Item Review

Tami introduced Michael Leierer, the new assistant WA-Trans project manager and technical lead. Sam discussed the Framework Management Group. He will try to re-establish the FMG through the ISB GIT. Sam is going to rewrite the FMG materials. Jeff wants to get farther with the enterprise architecture. Jeff mentioned the framework in the WAGIC meeting. They are looking at incorporating some of the WA-Trans structure anticipating the use of WA-Trans in the future. Chuck is not sure the agreement points are settled (unlike status says).

Action Item: Sam will try to re-establish the FMG through the ISB GIT.

Action Item: Sam will rewrite the FMG materials.

Action Item: There is concern that no action is occuring regarding dealing with jurisdictions with no data. Tami will wait a month and then if no action then try to reassign to someone who has time to do it.

Action Item: Chuck Buzzard, Tami Griffin, Dave Rideout or Cathy Udenburg will find out who the CRAB contact is.

Action Item: Ian will combine letter of support from emergency management with GECCO.

Front-End for Data Users

Discussed the Data Users Interface Requirements document. Michael has gone through the Steering Committee notes and revised the document to make sure no items were lost. Also the requirements structure was altered to allow for better reference and clearer requirements statements. Each item is numbered and any changes to the text of a requirements item will not alter the numbering of that item. The version of the requirements document will be displayed at the top of the page along with the last edited date.

Items 1.0 through 2.3 were discussed in detail with the rest tabled due to time. The 2.0 Data Sets section was discussed in detail with substantial changes to the core data sets. It was decided to remove data set details from the Data User Interface requirements document and place it in a data set detail document that will need to be created or into the Data Standards.

Need to add rest areas and weigh stations as items to Core Data Set list. Scenic highways, bridges and Park and Rides are to be added or changed to events. Add an entry for event data. Remove items 4, 5, 12, 13, 14, 15, 16 from the Core Data Set list.

Action Item: Michael will make changes to the Data User Requirements document to reflect the feedback from the Steering committee meeting.

Action Item: Michael will either move the Core Data Sets to the Standards, or create a Data Set requirements document.

Action Item: Anyone who has any additional changes to the Data Users Requirements document should Email Michael (with a cc to Tami). This is specifically related to sections 3.0 on to the end of the document, which were not discussed due to the time constraints. Any additional thoughts about the Data Sets can be Emailed as well. *NOTE: Please refer to the item number for each change noted.*

Versioning, update cycles, access to earlier versions and notification of updates

The Versioning and Archiving document and the Update Cycles/Notification document were reviewed. It was decided to make some changes and to combine the documents.

It was decided to change the versioning and archiving document to provide for annual archiving either one month, or two months prior to federal reporting requirements. For Update cycles we need to look at requirements for posting on the download site. Pat Whittaker will possibly know this information.

Action Item: Tami will send Dave Collum, Whittaker's contact information.

Action Item: Dave Collum will combine the Versioning and Archiving documents into one document.

We will possibly use data sharing agreements for updating timeline and develop contingency plans. Any contract or agreement should be based on business need.

Action Item: Michael review the updated documents for user interface requirements

Draft Data Provider Policy

Dave Rideout provided a draft Data Provider Policy. Sometimes engineering departments have no data, but 911 agencies, or other agencies do.

Eventually the WA-Trans Project Manager will not be the contact and it was suggested that any policy take into account the future to limit any changes to policy statements as WA-Trans matures. Add "/Data Administrator" to "WA-Trans Project Manager" at the end of the policy. With the above noted change this policy was accepted as written.

Crosswalk Classifications

Census doesn't classify to the degree that the functional classification has at WSDOT (uses a three or four digit code). The BIA has their own Functional Class. Do we want to provide classifications? Ian feels it would be wonderful to provide this crosswalk, but might be a lower priority.

If the Census data or TNM data goes in for freight we would have to conflate data. Chuck - County road data has freight and goods data in it (Mobility). Chuck feels we could put freight and goods in as event data and Michelle agrees. There is support for putting freight data in WA-Trans. We may have difficulty getting the data at the city level but we can get it at the county and state level every two years. We need to get a report from Pat Whittaker on County and Roads data.

Action Item: Tami will get County and Roads report from Pat Whittaker.

Is it worth cross walking census, BIA and TNM? They all are basic. Chuck feels that it might be needed. We can crosswalk them and get something to start with to meet the mapping needs. Look at cross walking those to functional class if possible. We may need software to perform the crosswalk functions.

Action Item: Investigate how the WA-Trans database can do, or facilitate crosswalk functions.

Agreement points report

Jason proposed geography points to his border counties and got them to "agree" that this is where our roads will meet. He approached it with a flexible agreement that "this" is where it will be until we get better information. Most rural county lines haven't been visited by a surveyor for 120 years. It will be very expensive to update the surveys of the county lines. He had one border county that wasn't interested in participating.

Chuck- realized no one had a good county boundary. Everyone is using 1:24,000. Unfortunately with no survey we need better accuracy. So if you pull up orthophotos and then boundary it is obviously off by 40 feet. Some of the boundaries for Pierce, King, and Thurston and Lewis counties are rivers (Nisqually or White river). The original survey description is the center of the river which changes constantly. Some court cases have led to assessments by a particular county even when, due to river changes, the property is in another county. Pierce County used LIDAR and DEM and DOQ to determine new county boundaries. Pierce gave the new county boundaries to King County and they agreed to use it for WA-Trans but nothing else. This will mean there will be a unique boundary layer, which could pose a problem in the future.

Chuck worked with Mike Berman from King County to set out different road networks. King County is maintaining long driveways which aren't addressed and have no names. They still haven't decided how to handle this in the integration process. For all addressed roads they have done some agreements. Mike agreed that Pierce had "more accurate" data and had Pierce County assign reference points to roads, railroads, dam crossings and then King County will review those points.

Chuck would like WA-Trans to have a letter that he can include with a letter from him describing the process and why we are doing it. He will be seeking agreements with other counties.

Action Item: Michelle will document the process(es) for establishing agreement points.

Action Item: Michelle and Tami will work on a letter describing the agreement points process and why we are doing it for Chuck.

Wendy says Census is hitting that issue with accurate County Boundaries.

Action Item: Wendy will look into what census is doing with the updating of county boundaries.

It was noted that Jason and Chuck have come up with processes that have worked and were congratulated. Their work is much appreciated.

Strategy for dealing with jurisdictions with no data

No discussion was possible as this action item has not been completed.

Action Item: Chuck and Michael will work on a process and wording to provide feedback to data providers as they attempt to provide data, are unsuccessful or are successful.

Next meeting we can address the translator.

Next years meeting schedule (2006)

Note: Since meeting rooms have not been scheduled the meeting dates are subject to change.

January 23rd 2006 9:00 – 12:00 Olympia	April 24th 2006 9:00 – 12:00 Seattle
July 24th 2006 9:00 – 12:00 Spokane	October 23rd 2006 9:00 – 12:00 Olympia

Action Item: Tami will get meetings scheduled.

Update Process and Policies document, Action Items Review

Action Item: Tami will update the spreadsheet she uses to manage the items that need to be assigned or have yet to be assigned. She will be talking to those who have been assigned action items to determine how these items can be completed in time for the scheduled Steering Committee meetings.

Appendix A Front End for Data Users

This document has taken the business rules and suggested functions, found in the Steering Committee notes and Data User Access document, and lists those items as requirements. These requirements can form the basis of a requirements document, which can be used during the creation/development of the Data User Web Portal. This document can also provide a beginning for the development of Use Cases. *NOTE: This is by no means a complete requirements document and needs substantial additions before any development can begin.*

Versioning of this document will be controlled by WA-Trans. The date at the top of the page will indicate the last edited date and previous versions will be retained.

1.0 Web Portal

1.1 Web Portal Pages

1.1.1 A web portal page will list the agency's core data sets.
1.1.2 A web portal page will list additional supportive layers for the agency's core data sets.
1.1.3 Mapping functions will be available for navigation.
1.1.4 Mapping functions will be available identification of data sets and layers.
1.1.5 Core Transportation layers and metadata files will be available for distribution through the web portal.
1.1.6 The web portal will be composed of the following pages:
- Framework overview
- Web portal page
- Interactive Web map page
- Data Sets for Downloading
- Disclaimers/Release of liability to be read before accessing mapping and data sets for downloading
- Resource links for other framework and supporting data layer sets.

2.0 Data Sets

2.1 Core Data Sets

2.1.1 The following Core Data Sets are examples of what may be included in a list:
1. Federal
2. State Highway system
3. Highway Ramps
4. Mileposts – 10 mile increments
5. Mileposts
6. Rest Areas
7. Scenic Highways

8. Local Roads
9. Bridges
10. Railroads
11. Ferry Transit Routes
12. Aviation Routes
13. Priority Programming
14. Engineering and Maintenance Districts
15. Organization Boundaries
16. Transportation Board Districts

2.2 Reference Data Sets

2.2.1 Reference layers listed below are to be used for viewing reference and interactive mapping purposes only and will not be available for downloading from the web site.
2.2.2 The following reference data sets are examples of what may be included in a list:

1. County Boundaries
2. Multiple Counties
3. Urbanized Areas
4. Reservation boundaries
5. Hydrography/Large water boundaries
6. Statewide

2.3 Additional Data Sets for Download/Access

2.3.1 The following data sets are examples of what may be included in an additional data sets list:

1. CRIS Data (Mobility?)
2. Survey Data
3. Anchor Data
4. Image Data

3.0 Accessing Data

3.1 Methods to allow user access to various data sets

3.1.1 The web portal will provide links to the originating agency's website for downloading or accessing of data sets belonging to other agencies.
3.1.2 A metadata button will appear on the opening statewide view screen.
3.1.2.1 When the metadata button is used the user will be given the minimum attributes available and the minimum accuracy standards for the various data in Framework.
3.1.2.2 When the metadata button is used the user will be given a statement that indicates "Some data may be available with additional attributes and higher accuracy." *NOTE: (These areas could be color coded for easier identification by the viewer/user. Clicking on an area could bring up that metadata.) Additional Note: The assumption here is that the user is looking at a map showing areas that can be clicked.*
3.1.2.3 The user will be presented information regarding when updates are scheduled and/or pending and an explanation of what "Periodicity of Updates" is.

3.1.2.4 The boundaries for these areas are to be determined by the originating agency and can be a representation of their UGA or other determining factor, such as transit district or fire district.

3.1.2.5 The user shall be able to connect to the data through the ArcIMS servlet connector to enable clients to use the data directly in ArcMap, ArcExplorer and ArcPad environments. *NOTE: Review of WSDOT's security needs and programming resources will define the feasibility of allowing access through an ArcIMS Servlet Connector or Java Connector allowing ArcMap, ArcExplorer and ArcPad clients to access the data.*

3.1.2.6 The user shall be able to choose to view data by boundary or by originating agency within the boundary.

3.1.2.7 Data sets would be available based upon their geographic extents, e.g. by state, county or regionally significant areas.

3.1.2.8 The user shall be able to access a page that would list everything they can download.

3.1.2.9 The user shall be able to view image maps that will give a method of grabbing areas of data.

3.1.2.10 Tami identified the possibility of using the Geospatial One Stop Portal, in the future, to allow more real time access.

3.1.2.11 The ability to be able to do x, y extents will also be included. Pre-clipped or special jurisdictional extents can be created and available based on the following: the partners can select one or two (decide the number later) pre-clipped extents which can be made available from a selection list, when there are several requests for a particular x, y extent a pre-clipped extent may be created for all to use.

3.1.2.12 Spatial representation/ static/ non-GIS environment. The user clicks on a location on a map in an area and then the system looks for reasonable matches from the list of available extents to download and provides a list of metadata for the options. It could zoom or pan, but would be static like an Acrobat file.

3.1.2.13 Could be a very limited live GIS environment with "skeletal" data to orient the user. The user has the ability to select jurisdictions and then pick a data set and extract them.

3.1.2.14 Another approach is to click x,y min/max extent. It could relate to the Universal Translator.

3.2 Data Set Ownership

3.2.1 When viewing areas ownership of datasets that are not part of the originating agency's inventory will be highlighted to alert the viewer of other agency responsibility.

3.2.2 There will be links to the originating agency's website for downloading or accessing of data sets belonging to other agencies or entities.

3.2.3 Metadata for data sets, belonging to other agencies or entities, would be the responsibility of the provider.

3.2.4 *NOTE: If we gave each entity an initial boundary, which included their UGA +/- that will at least keep most changes within the box. Since we are giving our network an "ownership" code, it should be simple enough to color or line code the "city" roads different than the "county" roads. We could also provide the user the choice to view/download by boundary or by "ownership" within the box.*

3.3 Downloading of Data Sets

3.3.1 Download of the data will be available through the web map page by selecting the data to be downloaded from the map.

3.3.2 Download of the data will be available through a link to a web page that enables a direct download of the data set, that enables a direct download of the <u>original</u> data set, in the preferred format.

3.3.3 The user shall be able to download data through a traditional resource page that lists the data sets available by description, format and location. *NOTE: Downloading complete data sets through a traditional access page in tabular format will provide services for clients that may not have adequate Internet access to support an interactive web page.*

3.3.4 The user shall be able to choose to download data by boundary or by originating agency within the boundary.

3.3.5 When a user selects to download data, they will first be given the option to download its corresponding metadata.

3.3.6 If the user decides to not download the metadata, an alert to the user stating, "WA-Trans is not responsible for incorrect assumptions made about the data resulting from not reviewing the metadata." will appear before any download will begin.

3.3.7 A user shall be able to query out past and future (planned data) data sets.

3.3.8 Past and future roads will not be the default data sets.

3.3.9 There will be security that will limit a users ability to query for past or future. *NOTE: This could be based on user group. It is also possible that this could be hidden except for selected users or groups.*

3.3.10 The security system will make sure they are authorized to access that data. A disclaimer will be provided regarding the limitation of the data.

3.3.11 The translator will be available for formatting the data and projecting it as needed by the data user.

3.3.12 Once a user has downloaded data to their satisfaction, they can then put it back with the rest of their GIS transportation data and make use of it like their own data.

4.0 Map Functions

4.1 Map functions to be made available:
- Zoom in/out
- Full view
- Pan
- Search by:
    - Location (regional, county or city)
    - Identifiers (street names or intersections)
    - Jurisdictional agency (federal, state or local authority)
    - Urban Growth Area
- Query Data
- Export Data by
    - Selection
    - Data set name
    - All Data Sets shown

5.0 Formats

5.1 Formats to be made available for Download/Access
1.   Shape files, ArcGIS feature data sets for ArcSDE, .dxf or .dgn,
2.   .MDB, Excel, DBF, .txt,
3.   JPEG, TIFF, bmp or GIF

5.2 Projection- Washington State Plane South NAD 83 only. (.PRJ files to be provided with shape files)

5.3 Multiple versions of re-projected data will be maintained for download.

6.0 Security

6.1 WA-Trans Web Based Security System must be able to:

1) Identify User

a) Via some combination of IP address, Login Account, Password, NT authentication, etc.

2) Identify User needs for specific restricted WA-Trans Data

a) Includes spatial extent of request

b) Use Restrictions associated with request

c) Licensing Requirements of data request

d) Fee Requirements of data request

3) Provide for User Profiles; Profiles would include:

e) Identification of User, Agency, Organization Company, etc.

f) Identification of User Data Access Levels (by layer & attribute)

g) Identification of existing Licensing, Fee Payments

4) Transact Data Provider required License Agreements & Use Fees in order for User to access restricted data in timely manner.

6.2 Basic Security Diagram

A concern is the desire of organizations to limit the use of data to only those who can access this information. Not all information is public and the desire is not to release it to the public at all or immediately without any caveats (e.g. private utilities or local governments). These organizations may not provide this information if a certain amount of security is not provided.
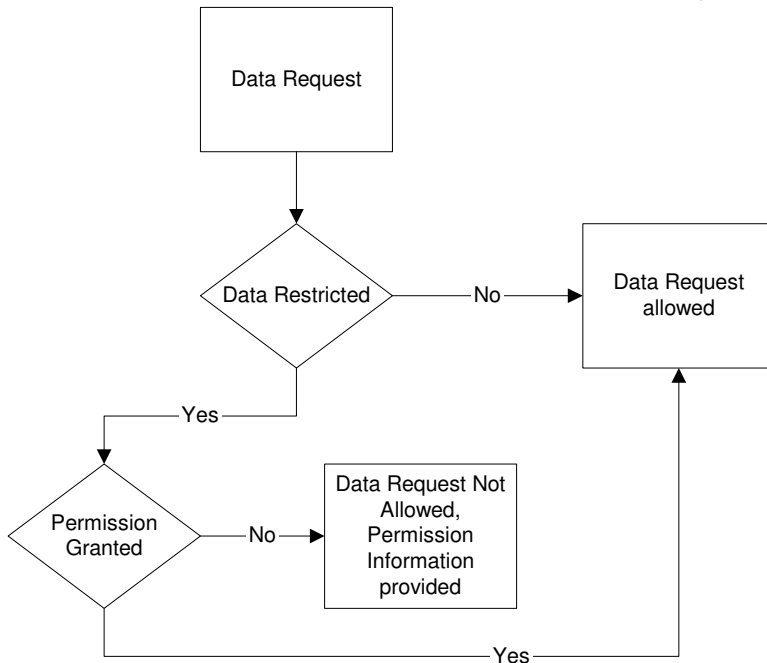
Key Questions:
1.) Who can grant permission?
2.) Who have they granted it to?

6.3 Reasons to access Restricted Transportation Data

1) The desire to access state and local governmental transportation data whose maintenance has been outsourced and copyrighted by private sector.
2) The desire to access governmental transportation data exempted from open records laws, e.g. tribal transportation data.
3) The desire to access transportation data associated with private land holdings (e.g. private timber companies, agribusiness, etc.).
4) The desire to use third party application utilities, e.g., private sector based heuristic routing applications, etc.
5) The desire to use private sector transportation value added data (e.g., private sector routing attributes, intersection turntables, impedance values, etc.),
6) The desire to use county & city transportation data where there is embedded private sector data within their road data e.g. King County with Kroll Map Company.

7.0 Miscellaneous

7.1 The group reviewed the updated document Art provided called "Access for Data User/Downloading Files". There was discussion regarding whether we want to give them an option of downloading metadata. It was decided that this was not a good precedent to set. We still need to give them a disclaimer, but we want them to receive the metadata even if they ignore it.
7.2 There was some discussion of platform. We don't want this to be an interactive data service. We want them to identify a geographic extent for clipping, but don't want to provide robust capability beyond that. Appendix E contains the document presented at the meeting.

7.3 There is a long-term goal of being able to provide some complex clipping of both data and metadata based on X, Y coordinates.

7.4 There was a significant discussion of describing the environment. Several of these things are described in various sections of the document, however it wasn't clear to the group what the environment would be.

Appendix B Agreement Points

Agreement Point Report

In order for agreement points to be created Pierce County (PC) required an accurate county boundary. The original boundary used by PC GIS was obtained from US Census1990 Tiger line files. We examined other boundaries used by Washington State agencies and decided that none were sufficiently accurate for this project. A new boundary based on RCW 36.04.270 was created from best available digital data sources: Lidar, Orthophotography, Digital Terrain Models and survey information.

After the new Pierce County boundary was available, the Pierce County Roads, Railroads and Orthophotography layers were examined for possible agreement points. One hundred thirty six agreement points were identified where modes of transportation crossed from Pierce County into the six surrounding counties. Agreement points for two primary means of transportation—road, railroad— and possible pedestrian/vehicular connections over dams were located.

Jurisdiction	Road	Railroad	Dam
King County	82	3	4
Kitsap County	22	0	0
Mason County	3	0	0
Thurston County	5	3	3
Lewis County	9	1	0
Yakima County	1	0	0
	122	7	7

There have been two meetings of the Puget Sound Pilot Project Committee. Currently the 89 agreement points that cross between King and Pierce Counties are being examined by King County's TNET team.

Two sources of inconsistencies exist between the King and Pierce Counties road layer models that may affect agreement points. First the TNET contains non-existing roads—possibly artifacts from Tiger— while Pierce County's model only contains existing roads identified from orthophotography or GPS. Second TNET maintains "Long Driveways" that are not open for public travel and do not contain address or route attributes. Pierce County's data model does not include these types of structures. Currently Pierce County has no plans to add agreement points to support such these two types of features.

Pierce County is beginning the process of contacting the remaining counties and hopes to have agreement points settled with the 5 other counties by the end of the 2nd quarter 2006.

Appendix C Draft Data Provider Policy

DRAFT WA-TRANS DATA PROVIDER POLICY

Discussion:

Data maybe provided by a number of different sources. Some providers such as Counties, Indian Reservations, or Cities have defined geographic extents, while others, such as the DOT have data which is more jurisdictional in nature, and less defined by geography than by ownership. WA-Trans overall goal is to have a statewide database of all transportation features to meet business needs for a multitude of partners. We expect that data providers could include Counties, Cities, American Indian Reservations, private agencies, State Departments of Transportation, Natural Resources, and Parks, and Federal agencies such as National Parks, Bureau of Land Management, and the Census Bureau.

The management of data from all of these sources is a monumental task. It may be beneficial to have regional coordinators to funnel data into WA-Trans. In many communities, County-level government has emerged as the de facto coordinator for multiple transportation authorities within their jurisdiction. At the County level, the County Engineer (or Public Works Director) is the office charged with records maintenance for the physical transportation infrastructure. Metropolitan Planning Organizations (MPO's), Regional Transportation Planning Organizations (RTPO's), or Councils of Government (COG's) are another option, but they do not cover the entire state.

In many Counties, road and transportation data has been compiled into a GIS by some agency other than the County Engineer, such as the County Assessor, a Planning Department, or an Information Systems Department.

Draft language:

In order to facilitate the management of a large volume of data from numerous data providers, it is the policy of WA-TRANS to pursue two primary goals in acquiring data from data providers. One goal will be to recognize the data stewardship of the agency responsible for the physical infrastructure being described in the GIS data provided, such as County Engineers, Federally Recognized Indian Tribes, and Municipal, State, and Federal Agencies. The second goal will be to acquire data from known sources that have compiled transportation data into a GIS, but do not have ownership or stewardship of the physical infrastructure. Therefore, the primary contact for transportation data shall be the known GIS data compiler as identified by the WA-TRANS Project Manager, and every effort shall be made to encourage the participation of agencies which are stewards of transportation infrastructure.

Appendix D Versioning, Update Cycles, Access to Earlier Versions and Notification of Updates

WA-TRANS DATA VERSIONING AND ARCHIVING

Introduction

There are many long-term benefits of versioning and archiving of WA-TRANS datasets. Core business needs and many specialized projects often require the use of historical data. The goal of this policy is to outline general criteria that facilitate the storage and retrieval of previous versions of WA-TRANS.

Adopted language:

1. It is the policy of WA-TRANS that the completed framework dataset will have a "snapshot" of the database taken and archived annually.
2. WSDOT will maintain the archived data for future use.

WA-TRANS DATA UPDATE CYCLES/NOTIFICATION

Introduction

Geospatial data needs to be updated at regular intervals in order to stay useful. By having a set update cycle that several agencies can agree to, we will have a dataset that is regularly updated, its quality assured in a reasonable timeframe, and redistributed to partners and the public.

Adopted Language:

WA-TRANS acknowledges that a data updates provided by partners may vary in frequency depending on business needs of the partnering agency. Data update intervals to WA-TRANS will be defined where feasible in data sharing agreements and will be documented additionally in the metadata. Notification of updates to framework data will be posted at the WA-TRANS web site.

<u>Appendix E Crosswalk Classifications</u>

Washington Road/Transportation Classification Systems

Roadways				
Federal Functional Classification		**State Functional Classification**		**Metropolitan Transportation System**
Name	Number	Name	Number	Name
Rural Interstate	1	Rural Interstate	R5	Interstate
Rural Principal Arterial Other	2	Rural Principal	R1	Principal Arterial
Rural Minor Arterial	6	Rural Minor	R2	Minor Arterial
Rural Major Collector	7	Rural Collector	R3	Collector
Rural Minor Collector	8	Rural Collector	R3	Collector
Rural Local	9	Rural Unclassified	R4	Local
Urban Interstate	11	Urban Interstate	U5	Interstate
Urban Principal Arterial Freeway/Expressway	12	Urban Principal	U1	Principal Arterial
Urban Principal Arterial Other	14	Urban Principal	U1	Principal Arterial
Urban Minor Arterial	16	Urban Minor	U2	Minor Arterial
Urban Collector	17	Urban Collector	U3	Collector
Urban Local	19	Urban Unclassified	U4	Local
Ferry				
				Metropolitan Transportation System
Transit				
				Metropolitan Transportation System
Non-motorized				
				Metropolitan Transportation System
Freight & Goods				
				Metropolitan Transportation System
Intercity Passenger Rail				
				Metropolitan Transportation System
Regional Aviation				
				Metropolitan Transportation System

From *Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps*
Part 3, Transportation, 1996

Road class	The category of roads based on design, weatherability, their governmental designation, and the Department of Transportation functional classification system
Class 1	Hard-surface highways including Interstate and U.S. numbered highways (including alternates), primary State routes, and all controlled access highways
Class 2	Hard-surface highways including secondary State routes, primary county routes, and other highways that connect principal cities and towns, and link these places with the primary highway system
Class 3	Hard-surface roads not included in a higher class and improved, loose-surface roads passable in all kinds of weather. These roads are adjuncts to the primary and secondary highway systems. Also included are important private roads such as main logging or industrial roads which serve as connecting to the regular road network.
Class 4	Unimproved roads which are generally passable only in fair weather and used mostly for local traffic. Also included are driveways, regardless of construction.
Class 5	Unimproved roads passable only with 4-whell-drive vehicles

Source Interpretation Guidelines

Hard-surface construction is generally concrete, asphaltic concrete, or bituminous macadam. Surfaces are waterproof. Minimum maintenance is required.

Improved, loose-surface construction is on light foundation and is usually gravel or stone surface, or some stable material, such as selected sand-clay, treated oil gravel, or light tar-bound macadam. The roads are generally drained and graded, but the surface is not waterproof. Periodic maintenance is required.

Unimproved-surface construction is usually stabilized soil, sand-clay, or disintegrated rock with poor or no foundation. The road is sometimes drained or graded. If the roads are maintained at all, continual maintenance is required.

Roads under construction are captured as such if the road is advanced enough in construction that the positions and configuration is established and can be determined by signature (scar) on source photography, and confirmed by State Highway Department detailed plans and profiles. When completed, the road must meet the criteria for a class 1 road.

If there is substantial evidence that paving is well underway for a road under construction, it may be collected as a completed road. This applies to all road classes.

If ROAD meets capture conditions, and coincides with a structure and that structure meets definition and capture conditions for another feature (BUILDING, BRIDGE, TUNNEL, FORD, GATE),
Then capture both ROAD and the other feature.

If ROAD meets capture conditions, and coincides with a structure, but that structure does not meet the definition and capture conditions for another feature (BRIDGE, TUNNEL),
Then capture ROAD and, if required, capture UNDERPASS to allow definition of the relationship between ROAD and the feature over or under which it passes.

Flow direction is modeled for ROAD with the Flows To and Connects To relationships. See JUNCTION.

Flow direction is modeled only for one way roads that are on class 1 and class 2 numbered routes and for any class of road where no alternate route exists.

Public roads that are closed seasonally because of snow are not collected as restricted.

Minor variations in width are not collected for stretches of road that are less than a half-mile in length.

The Road Class of all Traffic Circles and Turning Roadways is consistent with the highest class of highway entering the Traffic Circle or attached to the Turning Roadway.

From *Standards for 1:24,000-Scale Digital Line Graphs-3 Core Part 3: Transportation*, 1997

DELINEATION
The limit of a Road is the extent of the passage surface excluding shoulders and curbs.

DATA EXTRACTION

Capture Conditions

> If a Road is a public road,
> Or
> If a Road is a private road, is in a rural area, is ≥ 0.5" (1,000 feet) along the longest axis, and leads to a housing unit or connects two public roads,
> Or
> If a Road is a private road, is in an urban area, is ≥ 0.25" (500 feet) along the longest axis, and leads to a housing unit or connects two public roads,
> Then capture.

Attribute Information

Roads are classified using information provided by the States in cooperation with local officials; classification is based on the National Highway System (NHS) functional scheme developed by the U.S. Department of Transportation (DOT) and the Federal Highway Administration (FHA). This functional scheme groups roads and streets into three basic categories: arterial, collector, and local. The basic principal in classifying highways is that roads serve two functions or purposes: moving traffic and providing access to adjacent land use. Although most roads serve both functions, classification is determined by the degree to which one function dominates. Arterial roads carry traffic quickly from one place to another over long distances. Collector roads funnel traffic from local roads to arterial roads. Local roads provide the most local land access. Rural and urban areas have fundamentally different characteristics as to the density and types of land use, the density of street and highway networks, the nature of travel patterns, and the way in which these factors are related in the definitions of highway function. The rural functional system consists of Interstate highways and other principal arterials, minor arterials, major and minor collectors, and local roads. The urban functional system consists of Interstate highways, freeways or expressways, other principal arterials, minor arterials, collectors, and local roads. For a more thorough description of the functional road classification scheme, see "Highway functional Classification, Concepts, Criteria, and Procedures," Federal Highway Administration, March, 1989.

Representation Conditions

A Road is always represented as a line.

Source Interpretation Guidelines

All

If the overall width of a road is ≥ 0.05" (100 feet) and there is a median that is ≥ 0.01" (20 feet),
Then the Road is collected as two instances of Roads.

If the overall width of a Road is ≥ 0.05" (100 feet) and there is a median that is < 0.01" (20 feet),
Then the Road is collected as one instance of a Road.

If the overall width of a Road is < 0.05" (100 feet),
Then the Road is collected as one instance of a Road, regardless of whether there is a median.

A road under construction can be captured as a Road if it meets capture conditions and is advanced far enough in construction that the position and configuration are established and can be determined by signature (scar) on source images, and (or) it can be confirmed by State Highway Department detailed plans and profiles.

Roads not classified in the information provided by States will be assigned the 170 0642 functional descriptive code for Not Classified. Do not attempt any further investigation.

Four-wheel drive trails are captured as Roads, if the capture conditions are met.

If a Road coincides with a Railroad, and both elements meet capture conditions,
Then capture both the Road and the Railroad.

If a cul-de-sac in a Road is large enough to have an interior island, digitize a centerline along the road in the cul-de-sac and code it as appropriate for the road class. If a cul-de-sac is not large enough to have an interior island, collect the Road to the far end of the cul-de-sac.

If a service facility, rest area, viewpoint, traffic circle, or weigh station is large enough that the access road that continues through it forms an interior island, digitize a centerline along the road and code it as appropriate for the road class. If a service facility, rest area, viewpoint, traffic circle, or weigh station is not large enough to have an interior island, do not collect the access road in it.

From: wendy.hawley@census.gov
Sent: Wednesday, November 10, 2004 4:51 PM
To: GriffiT@wsdot.wa.gov
Subject: Census Definition of Urbanized Area, Urban Clusters, Urban and
Rural

Follow Up Flag: Follow up
Due By: Wednesday, December 01, 2004 5:00 PM
Flag Status: Flagged

FYI...

Urbanized Area (UA)
The urbanized area (UA) consists of densely settled territory that contains
50,000 or more people. The U.S. Census Bureau delineates UAs to provide a
better separation of urban and rural territory, population and housing in
the vicinity of large places.

For Census 2000, the UA criteria were extensively revised and the
delineations were performed using a zero-based approach. Because of more
stringent density requirements, some territory that was classified as
urbanized for the 1990 census has been reclassified as rural. (Area that
was part of a 1990 US has not been automatically grandfathered into the
2000 US.) In addition, some areas that were identified as UAs for the 1990
census have been reclassified as urban clusters.

Urban Cluster (UC)
An urban cluster (UC) consists of densely settled territory that has at
least 2,500 people but fewer than 50,000 people.

The U.S. Census Bureau introduced the UC for Census 2000 to provide a more
consistent and accurate measure of the population concentration in and
around places. UCs are defined using the same criteria that are used to
define UAs. UCs replace the provision in the 1990 and previous censuses
that defined as urban only those places with 2,500 or more people located
outside of urbanized areas.

Urban and Rural
The U.S. Census Bureau classifies as urban all territory, population, and
housing units located within urbanized areas (UAs) and urban clusters (UCs)
. It delineates UA and UC boundaries to encompass densely settled
territory, which generally consists of:

A cluster of one or more block groups or census blocks each of which has a
population density of at least 1,000 people per square mile at the time.

Surrounding block groups and census blocks each of which has a population
density of at least 500 people per square mile at the time.

Less densely settled blocks that form enclaves or indentations, or are used
to connect discontiguous areas with qualifying densities.

Rural consists of all territory, population, and housing units located
outside of UAs and UCs.

Geographic entities, such as metropolitan areas, counties, minor civil
divisions, and places, often contain both urban and rural territory,
population, and housing units.

This urban and rural classification applies to the 50 states, the District
of Columbia, Puerto Rico, American Samoa, Guam, the Northern Mariana
Islands, and the Virgin Islands of the United States.

The Freight and Goods Transportation System (FGTS) report is too large to include in this document.
The following link provides access to this document.

http://www.wsdot.wa.gov/mapsdata/TransFramework/project_documents/FGTS_2003_edited.pdf